

Amendments to the Claims

The following listing of claims will replace all prior versions, and listings, of claims in this patent application:

Claims 1 to 7 (canceled).

8. (new) A method for high-temperature heat treatment which preserves mechanical, acoustic and insulating properties of a load of ligneous material, including wood, placed as stacked elements in an enclosed treatment space, wherein the load defines two chambers within the treatment space including a first chamber situated upstream of the load and a second chamber situated downstream of the load, using an apparatus including a heater for heating a heat-transfer fluid circulating in the treatment space, a blower for continuously circulating the heat-transfer fluid through the treatment space at a defined flow rate and speed, sensors for monitoring the temperature and humidity of the treatment space, and a regulator for adjusting the temperature and humidity of the treatment space, and wherein the method comprises the steps of:

permanently monitoring and measuring conditions in each of the chambers using the sensors, comparing data received from the sensors and simultaneously and uniformly adjusting operations of the heater, the blower and the regulator on the heat-transfer

fluid, running a heat-treatment cycle incorporating increases in temperature governed as a function of thermal conductivity of the load and as a function of equilibrium between the flow rate and the speed of the heat-transfer fluid between the two chambers.

9. (new) The method of claim 8 which further includes the step of increasing the temperature in a plurality of steps.

10. (new) The method of claim 9 wherein the steps have preestablished temperature step levels and durations.

11. (new) The method of claim 8 which further includes the step of linearly increasing the temperature.

12. (new) The method of claim 8 which further includes the step of establishing equilibrium between a first temperature (T1) in the first chamber and a second temperature (T2) in the second chamber, reaching an increased temperature level of the heat-treatment cycle.

13. (new) The method of claim 12 which further includes the step of establishing the equilibrium when:

$$T1 = T2 - \Delta^{\circ}C,$$

when the temperature in the heat-treatment cycle is rising, wherein Δ is a temperature constant ranging between 5 and 25

degrees Celsius.

14. (new) The method of claim 13 wherein Δ is 5 degrees Celsius.

15. (new) The method of claim 13 which further includes the step of establishing the equilibrium when:

$$T_2 = T_1 + \Delta' {}^{\circ}\text{C},$$

when the temperature in the heat-treatment cycle is falling, wherein Δ' is a temperature constant ranging between 5 and 25 degrees Celsius.

16. (new) The method of claim 15 wherein Δ' is 20 degrees Celsius.

17. (new) The method of claim 8 which further includes the step of preventing the increases in temperature from reaching a level greater than 100 degrees Celsius if the treatment space contains more than 3% oxygen.

18. (new) The method of claim 8 which further includes the steps of detecting incidents associated with the heater when a mean temperature in excess of 120 degrees Celsius is detected in the treatment space, and operating the regulator to reduce the mean temperature in the treatment space below 100 degrees Celsius

before resuming the heat-treatment cycle.

19. (new) The method of claim 8 which further includes the step of maintaining the speed of the heat-transfer fluid constant.

20. (new) The method of claim 19 which further includes the step of maintaining the speed of the heat-transfer fluid constant by monitoring the speed and adjusting the flow rate of the heat-transfer fluid.

21. (new) The method of claim 8 which further includes the step of sealing top and bottom portions of the load while placed in the treatment space.

22. (new) The method of claim 8 which further includes the step of increasing the temperature of the heat-treatment cycle to 230 °C .